

APPENDIX B

Waste Management and Incineration in Phuket

B.1 Waste Management in Phuket

Phuket's garbage problem rapidly accelerated in the early 1980s with the growth of tourism in the region. As an international tourist destination, Phuket currently attracts around two million visitors each year. These tourists generate about 120 tons of solid waste each day.

In 1993, Pal Consultants was hired by the Public Waste Department to study the garbage problem. They found the combination and the forecast of the amount of MSW as in table B.1 and B.2.

Table B.1
A Physical Combination of Total Garbage in Phuket

Item	% Average by weight
Fruit	20.75
Paper	17.53
Plastic	13.26
Rubber	0.74
Leather	4.41
Cloth	4.56
Wood	13.66
Glass	4.84
Metal	4.11
Stone and Ceramic	3.23
Others	12.91
Total	100

*General Density 210 (kilogram/cubic meter)

Source: Pal Consultants Co.

Table B.2
Forecasting of Quantity of Garbage in Phuket during 1992-2011

Year	Total (Tons/Day)
1992	147.4
1993	158.6
1994	170.9
1995	183.7
1996	183.7
1997	212.4
1998	227.8
1999	244.9
2001	282.2
2002	299.2
2003	316.7
2004	337.4
2005	358.5
2006	380.6
2007	400.9
2008	422.2
2009	445.4
2010	470.6
2011	496.1

Source: Pal Consultants Co.

Their study included consideration of landfill, composting and incineration but did not look at waste segregation or recycling. It recommended the construction of a 250 tons per day waste-to-energy incinerator. In 1995, the national government provided Baht 788 million to construct such an incinerator, and requested the Forestry Department to allocate mangrove lands for the site.

The successful construction bidder was Japanese Corporation Mitsubishi, who utilized technology and erection expertise from German-based Martin and MC Incineration Co respectively. Pal Consultants Co, Creative Technology Co and

Norconsult International Co were hired by the Department of Public Works to supervise the project.

Greenpeace claimed that the incinerator came on line in early 1999, but only operates every two or three days when sufficient garbage is accumulated to permit full operation. To maximize the operation of the incinerator there are also conceives that Phuket might have to import garbage from other places. Moreover, the Thai government does not have the capability to monitor both the existence and the level of dioxin.

B.2 Location of Phuket Incinerator

Phuket incinerator is on Rattanakosin road, Muang district, Phuket. There is sea surrounding the incinerator in the east and north. In the south of the incinerator, there is mangrove forests. There is city only in the west of the incinerator. The main roads in the study area are Rattanakosin 200 years road, Phuket road, Poonpol road, and Kra road.

Figure B.1
Map of Phuket Incinerator

